

## MEASUREMENT OF CYANIDE IN WATER

This describes the method for the determination of cyanide in water samples, when metals which form cyanide complexes are not present.

CAUTION: Cyanide solutions are extremely dangerous. Always use bulb or automatic pipettes for handling all CN reagents.

### Equipment Required

1. EDT DR359TX Ion meter or pH meter with mV scale
2. EDT directION Combination Cyanide ion selective electrode(3291)

### Reagents:

Distilled water which has been passed through a mixed bed deionisation *unit*. should be used for the preparation of standard and reagent solutions.

### Ionic Strength Adjustment Buffer

Dissolve 8.0g NaOH in 1 litre volumetric flask with distilled water and dilute to the mark. This is 0.2M NaOH.

### Standard Cyanide Solution

In a 1 litre volumetric flask dissolve exactly 2.505g of analytical grade potassium cyanide in distilled water and dilute to the mark (make up fresh before each analysis).

Prior to analysis dilute the stock cyanide solution giving a range of additional standards which cover the expected sample concentration range.

### Method

1. Dilute all standards and sample 1:1 with ISAB and mix well.
2. Immerse the electrodes in the standard solution and record the mV response of the electrode.
3. Repeat the above procedure for a range of standard concentrations which span the expected range of the sample.
4. Plot the mV response against the standard concentration on lin/1og graph paper.
5. Repeat the above steps for sample analysis.

**If using the DR359TX a standard curve of up to 5 standards can be constructed and the sample concentration be read directly from the display.**

### Calculations

As both standards and sample have been diluted by the same amount the result obtained from the graph directly relates to the concentration of the original sample.